CLAIMS

1. A method of embedding watermarking data in an audio signal, comprising the steps of:

    (a) incorporating watermarking information into said audio signal,

    (b) sectioning said signal into at least two sections,

    (c) marking at least one said section whereby said sections may be identified,

    (d) generating distortion in one said section of said signal in a manner recoverable by a key obtainable from at least one other said section, and

    (e) appending said distorted section to said at least one other section to form a composite signal comprising a distorted section and at least one undistorted section.

2. A method as claimed in claim 1 wherein said key is embedded in said at least one other said section.

3. A method as claimed in claim 2 wherein said distortion is generated by creating a pseudo-random number sequence for adding as pseudo-random noise to said first said section, and wherein said pseudo-random number sequence is embedded in said at least one other section to enable said random noise to be subsequently removed.

4.   A method as claimed in claim 2 wherein the first section is distorted by means of a scrambling function.

5.   A method as claimed in claim 1 wherein said key is obtained directly from a sequence of bits contained in said at least one other said section.

6.   A method as claimed in claim 5 wherein said key is obtained by applying a hashing function to the bit sequence of said at least one other said section.

7.   A method as claimed in claim 5 wherein the output of the hashing function is added to the bitstream of said first section to create said distortion.

8.   A method as claimed in claim 5 wherein the bitstream of said first section is subject to a scrambling function to create said distortion.

9.   A method as claimed in claim 1 wherein said first section comprises a section to which access is to be restricted.

10.   A method as claimed in claim 1 wherein said at least one other section comprises an advertisement.

11. A method as claimed in claim 1 wherein said at least one other section comprises a trial listening section.

12. A method as claimed in claim 1 wherein said at least one other section comprises an advertisement section and a trial listening section.

13. A method as claimed in claim 1 wherein said audio signal is compressed after watermarking.

14. A method as claimed in claim 13 wherein said first section of said compressed signal is distorted by means of a scrambling function that receives as a key the output of a hashing function that acts upon said at least one other section.

15. A method as claimed in claim 14 wherein said audio signal is compressed in MP3 format and said scrambling function acts upon the bits contained within MP3 frames.

16. A method of playing back an audio signal having data embedded within it by the method of claim 1, comprising;

   (a) reading said composite signal,

   (b) identifying said sections,

   (c) obtaining said key from said at least one undistorted section, and

(d) recovering said distorted section.

17.   A method as claimed in claim 16 wherein said distorted section is recovered in real time without being written to memory.

18.   A watermarked audio signal comprising at least two sections, including a first section which is distorted in a manner recoverable by means of a key obtainable from at least one other section.

19.   A watermarked audio signal as claimed in claim 18 wherein said first section is a section to which access is restricted.

20.   A watermarked audio signal as claimed in claim 18 wherein said at least one other section is an advertisement section.

21.   A watermarked audio signal as claimed in claim 18 wherein said at least one other signal comprises a trial listening section.

22.   A watermarked audio signal as claimed in claim 18 wherein said at least one other signal comprises an advertisement section and a trial listening section.

23. Apparatus for embedding watermarking data in an audio signal, comprising:

   (a) means for incorporating watermarking information into said audio signal,

   (b) means for sectioning said signal into at least two sections,

   (c) means for marking at least one said section whereby said sections may be identified,

   (d) means for generating distortion in one said section of said signal in a manner recoverable by a key obtainable from at least one other said section, and

   (e) means for appending said distorted section to said at least one other section to form a composite signal comprising a distorted section and at least one undistorted section.

24. Apparatus for the playing back an audio signal having data embedded within it by the method of claim 1, comprising;

   (a) means for reading said composite signal,

   (b) means for identifying said sections,

   (c) means for obtaining said key from said at least one undistorted section, and

   (d) means for recovering said distorted section.

25.   A method for including an advertisement with audio data in an audio signal comprising, sectioning said signal into a first section and an advertisement section, generating distortion of said first section in a manner recoverable by a key obtainable from said advertisement section, and appending said distorted first section to said advertisement section.

26.   A method for including a trial listening section with audio data in an audio signal comprising, sectioning said signal into a first section and a trial listening section, generating distortion of said first section in a manner recoverable by a key obtainable from said trial listening section, and appending said distorted first section to said advertisement section.

27.   A method for including an advertisement section and a trial listening section with audio data in an audio signal, including sectioning said signal into a first section, an advertisement section and a trial listening section, marking at least one of said sections whereby said sections may be identified, generating distortion in said first section in a manner recoverable by a key obtainable from at least one of said advertisement and trial listening sections, and appending said distorted first section to said advertisement and trial listening sections to form a composite signal.

28.   A method of restricting access to a part of a data signal, comprising the steps of:

(a) sectioning said signal into at least two sections,

(b) marking at least one said section whereby said sections may be identified,

(c) generating distortion in one said section of said signal in a manner recoverable by a key obtainable from at least one other said section, and

(d) appending said distorted section to said at least one other section to form a composite signal comprising a distorted section and at least one undistorted section.